

The Math Learning Center
Bridges in Mathematics, Grades 3-5

Degree of Evidence regarding the Standards for Mathematical Practice:

Moderate Evidence

Summary of evidence:

1. **Make sense of problems and persevere in solving them.** There is moderate evidence of this practice throughout the sampled materials. This practice is well developed and a particular strength of this series. Every lesson has sample conversations to support teachers in the facilitation of student discourse. Students are encouraged to talk, discuss, and explain their thinking. Teachers are provided guiding questions that support students in making sense of meaning when problem solving. Evidence of open-ended questions and multiple representations is consistently evident throughout the series.
2. **Reason abstractly and quantitatively.** There is moderate evidence to support this practice throughout this resource. Students are given multiple opportunities to represent scenarios symbolically using pictures, numbers, or words. Students are routinely asked to estimate for reasonableness prior to problem solving and to justify reasonableness of their results including units and their meaning. Students develop understanding of properties and apply their understanding to problem solving.
3. **Construct viable arguments and critique the reasoning of others.** There was moderate evidence found of this practice throughout this series. Reviewers found many examples of student opportunities to share, justify their thinking, and critique solutions of others. Using prior knowledge to facilitate understanding and connection to new learning is evident throughout the lessons. No evidence was found for using non-examples throughout the sampled materials.
4. **Model with mathematics.** This practice is fully developed and a particular strength of this series. The predominant lesson structure, which is rooted in real-world situations and examples, facilitates student discovery and understanding of mathematical ideas. Evidence of students using and creating various models, drawing conclusions, refining their understanding, and justifying results through discussion and written descriptions is evident throughout the lessons. Although refining and revising conclusions is less apparent in the Grade 3 materials.
5. **Use appropriate tools strategically.** There is limited evidence for this practice. Students have many opportunities for using tools, but there was only limited evidence found to support students realizing the strengths and limitations of tools.
6. **Attend to precision.** There was limited evidence found to support development of this practice throughout the sampled materials. Reviewers found multiple opportunities for communication, but evidence of precision is limited to examples and models suggested in the teacher notes.
7. **Look for and make use of structure.** There is moderate evidence of this practice throughout this series. Reviewers found that students are encouraged to make generalizations and apply prior learning to new understandings and concepts. Evidence was found to support students moving from specific examples to some level of generalization.
8. **Look for and express regularity in repeated reasoning.** There is moderate evidence of this practice in the sampled materials. Reviewers cited evidence of multiple opportunities for learners to look for and express regularity in repeated reasoning, including looking for repetitiveness, discovering short cuts, and generalizing from patterns.